

## Acrylic Buccal Shield for Correction of Cheek Biting in Dentate Patient - A Case Report

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### Abstract

Cheek biting is a deleterious, self-inflicted, and unintentional injury to the oral mucosa. It is common in dentate patients and has been associated with psychological and developmental problems. One of the many reasons includes chronic cheek biting of buccal mucosa between the maxillary and mandibular teeth. The management maneuvering includes patient counselling, topical sedatives, and prosthetic shields. This case paper highlights the fabrication of a simple acrylic buccal shield for the management of chronic biting of cheek mucosa in dentate patients.

**Keywords:** Cheek biting; Buccal shield; Anti-cheek biting appliance; Oral injuries

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### Introduction

Chronic biting of oral mucosa is a form of self-inflicted and unintentional injury commonly observed in the buccal mucosa, labial mucosa, and lateral surface of the tongue [1]. One of the many reasons includes chronic biting of buccal mucosa due to the interposition of the cheek between maxillary and mandibular posterior teeth [2]. The treatment modalities include palliative treatment, proper patient counselling, topical anti-inflammatory, topical sedatives, and various prosthetic shields [3]. If the healing is impaired, it may progress towards malignancy. Hence, all the measures should be taken to prevent further injury to the oral mucosa [4,5]. This case report refers to the management of cheek biting with the help of both symptomatic treatment and fabrication of specially designed acrylic buccal shield prosthesis.

### Case Report

A 22-year-old female reported to the tertiary care dental department of Prosthodontics at the Maulana Azad Institute of Dental Sciences, New Delhi, with an ulcer on the left cheek caused by habitual cheek biting. On examination, the ulcer was caused because of entrapment of left buccal mucosa between the maxilla and mandibular teeth. She complains of biting her cheek most of the time. On examination, there was reduced mouth opening associated with ulcers. On inspection of the ulcer, it presented as 5 × 6 cm in relation to the occlusal table of the maxillary and mandibular left posterior tooth. The ulcer was approximately 2 mm deep at the centre and was gradually

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merged with the adjacent tissues at the periphery. On palpation, the ulcer margins were fragile, which mildly oozed out blood and was tender on palpations (**Figure 1**). The patient had full dentition



**Figure 1** Pre-operative view.

but with a decreased horizontal overlap of the posterior tooth on the left side. Therefore, the cheek biting was attributed to the malalignment of the posterior tooth.

Treatment objectives included a reduction in pain, prevention of entrapment of cheek mucosa, promoting the healing of ulcer with improvement in mouth opening. Prompt intervention for a reduction in pain was provided by topical application of lidocaine hydrochloride, choline salicylate, and benzalkonium chloride (Dologel-CT; Dr. Reddy's Laboratories), applied 3 times a day, for 15 days and 15 minutes before taking food.

The next objective was to prevent entrapment of buccal mucosa between maxillary and mandibular teeth. For serving this purpose, a removable prosthesis was fabricated to deflect the buccal mucosa away from the occlusal table.

The impression of both arches was made in irreversible hydrocolloid impression material and the cast was poured in type III Gypsum product. On the maxillary cast, the complete palatal plate was fabricated using self-cure polymethylmethacrylate (PMMA) and was retained using pin head clasp on premolars and Adams clasp on molars. For the deflection of buccal tissues away from the tooth, a buccal shield was fabricated using self-cure polymethylmethacrylate (PMMA) (Figure 2). Markings were made on dental cast in accordance to the size and position of ulcer which would help in guiding the extension of buccal shield. This shield was in accordance with the size of the ulcer i.e., covering the entire ulcer. To enhance the retention of the buccal shield, it was attached to Adams clasp of the palatal plate (Figure 3).

The shield was extended from the middle third of the buccal surface of maxillary teeth to approximately 7mm on the mandibular teeth. The shield was kept at an angle to deflect the buccal tissue to prevent entrapment of buccal mucosa. This would prevent further irritation to tissues.

The prosthesis was finished and polished in a conventional manner. The patient was instructed regarding the insertion



Figure 2 Prosthesis seated on cast.

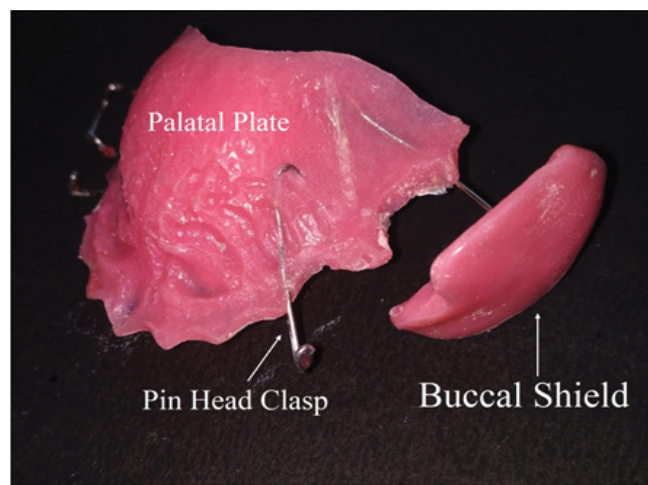


Figure 3 Parts of fabricated removable prosthesis.



Figure 4 Prosthesis placed intra-orally.

and removal of the prosthesis (Figure 4). The patient was also instructed to wear an appliance all the time including night time wear except during taking food.

A 5-day follow up examination showed a reduction in the size of the ulcer with the peripheries showing healing. A 15-day follow up showed subsequent healing of the ulcer. Regular follow-up was done at 4 weeks interval. A follow-up examination at 6 months showed no recurrence of the ulcer with improved mouth opening (Figure 5). After six months, recall at an interval of 3 months for an initial 1 year was advised.

## Discussion

In patients with chronic ulceration, attempts must be made to promote healing of the ulcer otherwise it may progress towards malignancy. The advantage of the prosthesis was that it was easy to fabricate and can be relined easily, as the prosthesis was made in self-cure polymethylmethacrylate (PMMA). Moreover, this prosthesis would serve its purpose to deflect buccal mucosa



**Figure 4** Post-operative view after 6 months.

while not interfering with the aesthetics of the patient. The angulation of the buccal shield will deflect the buccal mucosa, away from the occlusal table, thereby preventing further trauma. The prosthesis was easy to fabricate and was self-cleansable. The only disadvantage with this technique is that the prosthesis is removable; hence, patient compliance is essential.

## Conclusion

The prosthesis presents a conservative treatment approach in the management of chronic ulcers. All attempts must be made to promote healing by preventing cheek biting. It not only interferes with the habit but it also stops the progression of chronic irritation towards malignancy.

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